

Mr. James Bratina
Heritage Environmental Services, LLC
7901 W. Morris Street
Indianapolis, IN 46231

RE: Exempt Construction and Operation Status
E 097-11935-00122
Plant ID: 097-00122

Dear Mr. Bratina:

The letter from Heritage Environmental Services, LLC, received on January 12, 2000, with additional information received on April 10, 2000, has been reviewed. Based on the data submitted and the provisions in Indianapolis Air Pollution Control Board Regulation 2 (Permits), it has been determined that the following, to be located at 7901 W. Morris Street, Indianapolis, Indiana 46231, is classified as exempt from air pollution permit requirements:

new Pilot-scaled process for recovering Zinc compounds from electric arc furnace dust , including

- (a) A Mixer (coke fines & water);
- (b) Briquette machine;
- (c) Sizing screens;
- (d) Natural gas batch furnace, maximum heat input 500,000 Btu/hr, Emission Unit EU #FP-3. Air emissions will be controlled by two (2) cartridge collectors for Byproducts and Zinc Oxide recovery, Emission Units EU # FP-1 and EU # FP-2.

Any change or modification which may increase the potential PM/PM10 emissions to more than 5 tons per year from the equipment covered in this exemption must be approved by the Indianapolis Environmental Resources Management Division (ERMD), Air Quality Management Section before such change may occur.

Notwithstanding this exemption, the new source will be subject to following state and local rules:

Opacity Limitations

That pursuant to IAPCB Regulation 5-1 (Opacity Limitations) and 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in IAPCB Regulation 5-1-1 (3) and 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:

- a) Visible emissions shall not exceed an average of 30% opacity in 24 consecutive readings.
- b) Visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2(c), the allowable particulate matter emissions rate from the new Pilot-

scaled process for recovering Zinc compounds shall not exceed 0.551 pounds per hour.

Interpolation and extrapolation of the data for the process weight rate shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The proposed new Pilot-scaled process for recovering Zinc compounds from electric arc furnace dust PTE is 0.477 lb/hr, therefore this new unit will be in compliance with 326 IAC 6-3-2.

The cartridge collectors for Byproducts and Zinc compounds recovery, Emission Units EU # FP-1 and EU # FP-2, shall be in operation at all times the Zinc compounds recovery unit is in operation

Pursuant to 326 IAC 6-3-2(c), the cartridge collectors for Byproducts and Zinc Oxide recovery, Emission Units EU # FP-1 and EU # FP-2, shall be in operation at all times the Zinc recovery unit is in operation

If you have any questions concerning these matters, please call Mr. Boris Gorlin at 327-2234.

Sincerely,

Robert F. Holm, Ph.D.
Administrator

cc: Files
BG

Environmental Resources Management Division Air Quality Management Section

Technical Support Document (TSD) for Exempted Unit

Source Background and Description

Source Name:	Heritage Environmental Services, LLC
Source Location:	7901 West Morris Street, Indianapolis, IN 46231
County:	Marion
SIC Code:	3341
Exemption No.	E097-11935-00122

The Environmental Resources Management Division (ERMD) has reviewed a request from Heritage Environmental Services, LLC relating to the construction and operation of a new Pilot-scaled process for recovering Zinc compounds from electric arc furnace dust , including

- (a) A Mixer (coke fines & water);
- (b) Briquette machine;
- (c) Sizing screens;
- (d) Natural gas batch furnace, maximum heat input 500,000 Btu/hr, Emission Unit EU #FP-3. Air emissions will be controlled by two (2) cartridge collectors for Byproducts and Zing Oxide recovery, Emission Units EU # FP-1 and EU # FP-2.

Enforcement Issue

There is an enforcement action (processed by the EPA) pending related to the benzene operations. This action is not related to the new proposed construction and operation.

Recommendation

The staff recommends to the Administrator that an exemption from air pollution permit requirements be approved for the proposed new construction. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the source's letter received on January 12, 2000, with additional information received on April 12, 2000

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the Cartridge collectors, Emission Units EU # FP-1 and EU # FP-2 be considered as an integral part of their operation, because their primary function is Zinc Oxide recovery, therefore these collectors are the fundamental component to the process.

ERMD has evaluated the justifications and agreed that the listed Cartridge collectors, Emission units EU # FP-1 and EU # FP-2 will be considered as an integral part of the process. Therefore, the permitting level will be determined using the potential to emit after the dust collectors. Operating conditions in the proposed permit will specify that these dust collectors shall operate at all times when the shot blasting units are in operation.

Emissions Calculations

See Appendix A (Emissions Calculation Spreadsheets) for detailed calculations (1 page).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential Emissions after control (tons/year)
Particulate Matter (PM)	0.507
Particulate Matter (PM10)	0.507
Sulfur Dioxide (SO ₂)	0.001
Volatile Organic Compounds (VOC)	0.006
Carbon Monoxide (CO)	0.077
Nitrogen Oxides (NO _x)	0.307
Single Hazardous Air Pollutant (HAP)	0
Combination of HAPs	0
Lead	0.016

Allowable and potential emissions are determined using AP-42 emission factors.

The potential emissions are less than the levels specified in 326 IAC 2-1.1-3 (Exemptions). Therefore, pursuant to the provisions in Indianapolis Air Pollution Control Board Regulation 2 (Permits), this source is classified as exempt from air pollution permit requirements.

County Attainment Status

Marion County has been classified as attainment or unclassifiable for criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

New Source PSD Definition (emissions after controls, based on batch operation mode, maximum of 3 batches per week, each batch lasting 12 hours of operation and 36 hours for cooling down):

Pollutant	Emissions (ton/yr)
Particulate Matter (PM)	0.507
Particulate Matter (PM10)	0.507
Sulfur Dioxide (SO ₂)	0.001
Volatile Organic Compounds (VOC)	0.006
Carbon Monoxide (CO)	0.077

Nitrogen Oxides (NO _x)	0.307
Single Hazardous Air Pollutant (HAP)	0
Combination of HAPs	0
Lead	0.016

This new source is not a major stationary source because no nonattainment pollutant is emitted at a rate of 100 tons per year or greater and no attainment pollutant is emitted at a rate of 250 tons per year or greater.

Federal Rule Applicability

There are no New Source Performance Standards: IAPCB Regulation 12 and 326 IAC 12; 40 CFR Part 60; 40 CFR Part 63; NESHAP applicable to this source.

State Rule Applicability

Opacity Limitations

That pursuant to IAPCB Regulation 5-1 (Opacity Limitations) and 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in IAPCB Regulation 5-1-1 (3) and 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:

- a) Visible emissions shall not exceed an average of 30% opacity in 24 consecutive readings.
- b) Visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2(c), the allowable particulate matter emissions rate from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.

Interpolation and extrapolation of the data for the process weight rate shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The proposed new Pilot-scaled process for recovering Zinc compounds from electric arc furnace dust PTE is 0.477 lb/hr, therefore this new unit will be in compliance with 326 IAC 6-3-2(c).

The cartridge collectors for Byproducts and Zinc Oxide recovery, Emission Units EU # FP-1 and EU # FP-2, shall be in operation at all times the Zinc recovery unit is in operation

326 IAC 15-1-1 (Lead Emission Limitations)

This new Pilot-scaled process for recovering Zinc compounds from electric arc furnace dust is not subject to this rule because the source is not listed in section 2 of this rule.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 189 hazardous air

pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the ERMD Construction Permit Application Form Y.

The New Toxics Control Rule 326 IAC 2-1-3.4 will not apply to this new construction because a single HAP will not be emitted at a rate of 10 tons per year or more or a combination of HAPs will not be emitted at a rate of 25 tons per year or more.

Conclusion

The construction and operation of this new Pilot-scaled process for recovering Zinc compounds from electric arc furnace dust to be exempted from air pollution control permit requirements.

Appendix A

Company Name: Heritage Environmental Services, LLC
 Address, City, IN Zip: 7901 West Morris Street, Indianapolis, IN 46231
 Plt ID: 097-00122
 Reviewer: B.Gorlin

Natural Gas Combustion Only

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr					
0.5	4.380					
	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MM	13.7	13.7	0.6	140.0	2.8	35.0
Potential Emission in ton	0.030	0.030	0.001	0.307	0.006	0.077

Methodology:

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: Uncontrolled = 140, Low NOx Burner = 81, Flue gas recirculation = 30

Emission Factors for CO: Uncontrolled = 35, Low NOx Burner = 61, Flue gas recirculation = 37

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Zink Recovery Process

Maximum Raw Material	850 Lb/batch		
Maximum content of Zink	30%		
or:	255 Lb/batch		
Batches per week:	3		
Batches per year:	156		
PM/PM10 Emissions (1	306 Lb/batch	47,736 lb/yr	23.868
PM/PM10 Emissions (1	6.12 Lb/batch	954.72 lb/yr	0.477
Lead Emissions (1% ir	10.2 Lb/batch	1,591.2 lb/yr	0.796
Lead Emissions (1% ir	0.204 Lb/batch	31.824 lb/yr	0.016

Total Potential Emissions, ton/yr

	Pollutant				
	PM	PM10	SO2	NOx	VOC
Gas Combustion	0.030	0.030	0.001	0.307	0.006
Zinc Recovery, before c	23.868	23.868	0	0	0
Zinc Recovery, after co	0.477	0.477	0	0	0
Total (source, before c	23.898	23.898	0.001	0.307	0.006
Total (source, after con	0.507	0.507	0.001	0.307	0.006

326 IAC 6-3-2 (Process operations: particulate emission limitations)

$E = 4.1P^{0.67}$

Material Processed: 850 lb/batch / 12 hr = 70.833 lb/hr

	or:	0.035 ton/hr
Emission Limit:		0.551 lb/hr
PTE		0.477 lb/hr

3tu

ton/yr
ton/yr
ton/yr
ton/yr

CO	Lead
0.077	0
0	0.796
0	0.016
0.077	0.796
0.077	0.016

